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IMPACT OF CLIMATE CHANGE ON THE STANDARD OF LIVING IN NIGERIA: AN ECONOMETRIC ANALYSIS (1990-2024).

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Abstract: This study examines the impact of climate change on the standard of living in Nigeria, focusing on key climatic factors such as Mean Annual Temperature (MAT) and Mean Annual Relative Humidity (MARH). Using multiple regression analysis, the study analyzes data sourced from the World Bank and the Central Bank of Nigeria (CBN) Statistical Bulletin for the years under review. The findings reveal a negative relationship between climate change indicators (MAT and MARH) and the standard of living, measured by per capita income (PCI) in Nigeria. Specifically, rising temperatures and increasing humidity levels were found to adversely affect agricultural productivity, economic stability, and overall quality of life. The study underscores the need for targeted climate adaptation strategies and sustainable development policies to mitigate the negative effects of climate change and improve living standards.
Keywords: Climate change, humidity, productivity, temperature, standard.

1. Introduction

Climate change has become one of the most significant challenges of the 21st century, with its far-reaching impacts on the environment, economy, and society (Change, 2022). In Nigeria, a country highly dependent on its agricultural sector and natural resources, the effects of climate change are particularly concerning. From disruptions to food production to altered rainfall patterns and rising temperatures, the consequences of climate change are already manifesting in ways that are threatening the standard of living for millions of Nigerians. Rural areas, where the majority of the population relies on farming and fishing for their livelihoods, are particularly vulnerable, as these sectors are highly sensitive to climatic shifts (Onyeneke et al., 2024).

Over recent decades, Nigeria has experienced a noticeable rise in temperatures. According to the Intergovernmental Panel on Climate Change (IPCC) 2021 report, the country's average annual temperature has risen by approximately 1.1°C between 1960 and 2010, with projections indicating an additional increase of 2.1°C to 3.1°C by the end of the century if emissions continue at current rates (Mandel & Lipovetsky, 2021). This rise in temperature is leading to more frequent and intense heatwaves, particularly in northern Nigeria, where temperatures are already higher than in the southern regions. Alongside this warming trend, Nigeria is facing unpredictable rainfall patterns. In the southern regions, heavy rains have led to flooding, while the northern regions are experiencing prolonged dry spells and droughts. This erratic weather is already having significant consequences for agricultural productivity, water availability, and food security (Seun *et al.,* 2023).

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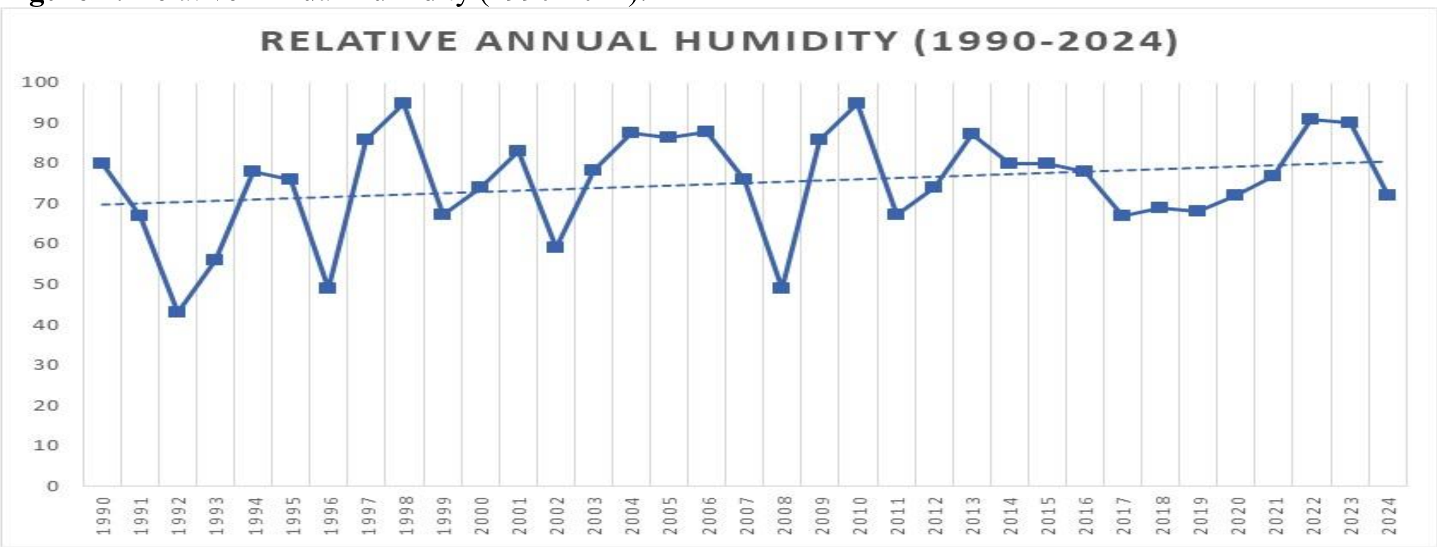
In the context of climate change, the study used annual humidity and annual temperature as key indicators to measure the changes in the climate patterns affecting Nigeria. These two factors are critical because they directly influence both the environment and human activities, particularly in sectors like agriculture, health, and water availability. Figure 1 is a representation of the trend analysis of relative annual humidity between 1990-2024.

Figure 1: Relative Annual Humidity (1990-2024):



Source: Author's Computation Using Excel Analytics.

From figure 1, it can be deduced that from 1990 to 2024, Nigeria's mean annual relative humidity fluctuated significantly. Early years saw higher humidity, around 80%, but a sharp drop occurred in 1992 to 43%. Throughout the 1990s and 2000s, humidity levels varied, reaching a high of 95% in 2010. In the following years, humidity generally stayed between 70% and 90%, with notable peaks in 2010 (95%), 2012 (91%), and 2022 (90%). The lowest value recorded was 43% in 1992, and the trend remains variable but generally high in recent years.

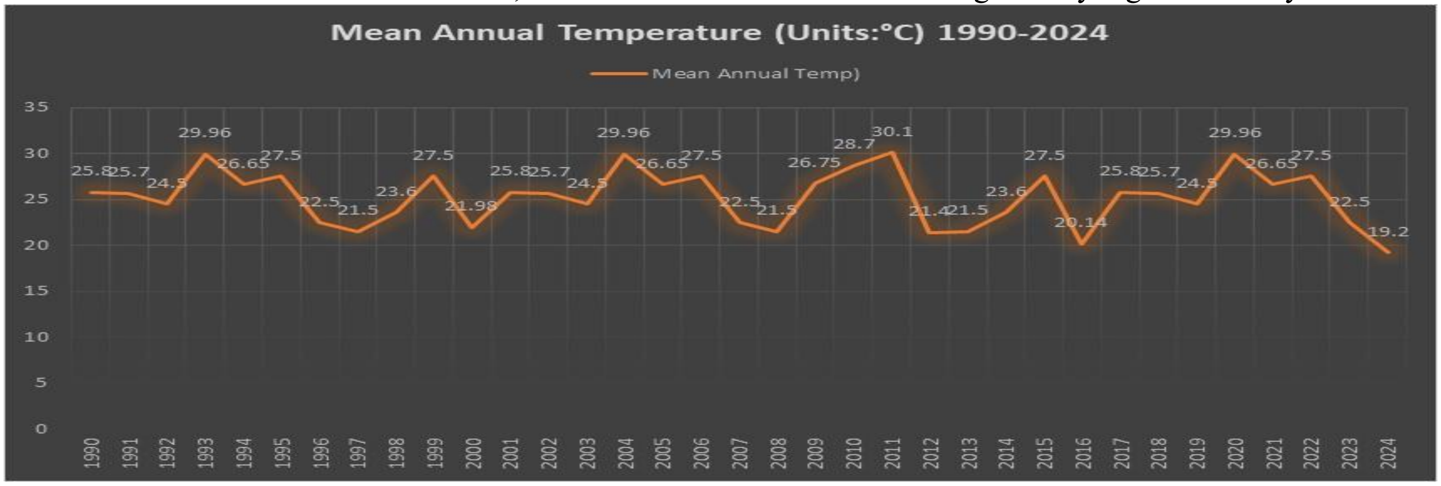


Figure 2: Nigeria's Mean Annual Temperature: 1990-2024.

Source: Author's Computation Using Excel Analytics.

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From figure 2, one can conclusively deduce that from 1990 to 2024, Nigeria's mean annual temperature fluctuated between 21.4°C and 30.1°C. The temperature was relatively stable in the early years, ranging from 21.5°C to 25.8°C. However, there were notable spikes, especially in 1993 and 2004, reaching 29.96°C. The temperature remained higher in the 2010s, with a peak of 30.1°C in 2011. Throughout the study period, the temperature showed variability but generally remained between 21°C and 30°C.

The health risks associated with climate change are particularly concerning. Rising temperatures, combined with erratic rainfall, create conditions that favor the spread of diseases like malaria, which thrives in warmer temperatures and fluctuating rainfall. Additionally, the frequency of extreme weather events like floods has contributed to the spread of waterborne diseases, such as cholera, which becomes more prevalent in areas with poor sanitation and disrupted water supplies. The World Health Organization (WHO) has projected that by 2050, Nigeria could see over 3,000 additional deaths annually due to heat-related illnesses and the spread of infectious diseases (Riahi & Khorsandi, 2025). Based on the foregoing, this study therefore examined the impact of climate change on the living standard of Nigeria using an econometric approach.

2. LITERATURE

Dynamics of Climate Change

Climate change refers to significant and long-term changes in the Earth's climate, including variations in temperature, precipitation, and weather patterns. It encompasses both natural processes and human-induced factors, particularly the latter due to the burning of fossil fuels, deforestation, and other activities that increase greenhouse gas concentrations in the atmosphere. These changes can lead to a range of impacts, including more extreme weather events, rising sea levels, and disruptions to ecosystems and biodiversity. Climate change is a complex issue that affects various aspects of life, including agriculture, health, and economies (Wamsler, *et al.* 2023).

Climate change refers to a significant and sustained shift in global or regional climate patterns, particularly a rise in average temperature, typically over a period of decades or longer. This can be due to natural factors or, more commonly in recent times, human activities such as burning fossil fuels and deforestation (Reser & Bradley, 2020). Climate change is the alteration in the Earth's climate system, resulting in changes to weather patterns, sea levels, and the frequency and intensity of extreme weather events. It affects ecosystems, biodiversity, and natural resources (Reser & Bradley, 2020).

Standard of Living

The standard of living refers to the quality of life experienced by individuals or communities, based on access to essential resources such as income, housing, healthcare, education, and overall living conditions. Higher standards of living are marked by adequate financial resources, stable employment, good health, and access to clean and safe living environments. People with a higher standard of living typically have more opportunities for education, better healthcare services, and improved housing conditions, which contribute to their overall well-being (Nwachukwu & Ibe, 2024).

Conversely, a lower standard of living often means limited access to basic necessities, such as food, clean water, and proper healthcare, leading to poorer health outcomes and economic instability. Inadequate housing, high levels of poverty, and insufficient educational opportunities can further hinder a person's or community's ability to improve their living conditions. Ultimately, the standard of living reflects not just economic factors but also social and environmental conditions that impact an individual's or group's overall quality of life (Nwachukwu & Ibe, 2024).

Theoretical Review/Framework

Vulnerability Theory

One of the key theories that aligns with the study of climate change and its impact on the standard of living in Nigeria is the Vulnerability Theory, which was developed by Anthony Giddens in 1990. This theory focuses on the susceptibility of individuals, communities, or entire systems to the negative effects of environmental, economic, or social changes. In the context of climate change, the theory explores how different populations are exposed to, and affected by, climate risks based on their sensitivity and ability to adapt to environmental stressors. In Nigeria, rural communities that depend heavily on agriculture are especially vulnerable to the impacts of climate change, such as rising temperatures, erratic rainfall, and extreme weather events like floods and droughts. These climatic disruptions undermine agricultural productivity, contributing to food insecurity and a decline in living standards, particularly for low-income and rural households. The Vulnerability Theory thus helps to explain how climate change exacerbates existing inequalities in Nigeria, particularly for those who lack the resources and adaptive capacity to cope with environmental challenges.

Sustainable Development Theory

The Sustainable Development Theory, which has roots in the works of Gro Harlem Brundtland, particularly in the 1987 Brundtland Commission Report, is another relevant theory for understanding the impact of climate change on Nigeria's standard of living. Sustainable development focuses on achieving a balance between economic growth, environmental protection, and social equity, aiming to meet the needs of the present without compromising the ability of future generations to meet their own needs. The theory suggests that long-term economic stability can only be achieved when environmental and social factors are taken into account. In relation to climate change, this theory highlights the importance of addressing environmental degradation while improving the quality of life for all, especially in developing countries like Nigeria. Climate change poses a significant threat to Nigeria's economic development, particularly in sectors such as agriculture, which is highly sensitive to climatic fluctuations. By adopting sustainable practices, such as promoting renewable energy, efficient water management, and climate-resilient farming techniques, Nigeria can improve its standard of living while ensuring that future generations are not burdened by the environmental and social consequences of climate change. The Sustainable Development Theory, therefore, underscores the need for policies that integrate climate adaptation and mitigation to create a more resilient and sustainable future.

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Empirical Studies

Tuy *et al.,* (2025) carried out a study on the impact of climate change on the livelihoods of people in the Mekong Delta, Vietnam. Adopting a multiple regression analysis, the study discovered that Climate change is having severe impacts on the livelihoods of people in the Mekong Delta, Vietnam, a key region for agriculture and aquaculture. Extreme weather events such as droughts, floods, and saltwater intrusion have reduced agricultural productivity, water quality degradation, and threats to food security. These challenges not only affect household incomes but also undermine community stability. To ensure sustainable development, adaptive solutions must be implemented, including improving irrigation systems, developing salt-tolerant crop varieties, and enhancing disaster resilience infrastructure. Additionally, targeted support for vulnerable groups is essential to mitigate adverse effects and strengthen climate resilience.

Lakshmi (2024) carried out a study on enhancing human resilience against climate change through an assessment of hydroclimatic extremes and sea level rise impacts on the Eastern Shore of Virginia, United States. The researcher incorporated historical data on demographics and disasters, land use land cover (LULC), Landsat imagery, and sea level (SLR) to better understand and highlight the correlation between hydroclimatic extremes and societal components in this region. The hydrological model Soil and Water Assessment Tool (SWAT), Standardized Precipitation Index (SPI), Normalized Difference Water Index (NDWI), and Interquartile Range (IQR) method have been used to evaluate the intensity and frequency of projected climate extremes, in which SLR projections under different greenhouse gas emission pathways are temporally and spatially quantified. The researcher found out that findings a trend towards wetter conditions is found with an increase in the number of flood events and up to an 8.9 % rise in the severity of flood peaks compared to the 2003–2020 period.

Lechuga-Cardozo (2025) conducted a study on the unmet basic needs in Venezuelan migrants' receptor countries in times of climate change. The study aims to theoretically link poverty and Venezuelan migration, understanding impoverishment as the unmet basic needs of migrants in destination countries. This study follows an interpretive, non-experimental and transactional methodology. Data mining technique is used in the top five receiving countries of Venezuelan migrants: Brazil, Colombia, Chile, Ecuador and Peru. The case of Venezuelan migration in Latin America and the Caribbean is presented as a spatial reference. The results show that unmet basic needs are an indicator of poverty in migrations, which could be a factor of impoverishment for the migrant. The study concluded that the accommodation, water, health, education and integration sectors represent half of each country's budget in 2020; they are related to housing, economic dependence and services dimensions. These factors as indicators of poverty from the model of unmet basic needs must be covered to prevent Venezuelan migrants and refugees from becoming impoverished.

Rodriguez Huerta, Leao, & Landmann (2024) explores the theoretical and conceptual nexus between climate change, workers' health, decent work, human rights, and the UN Sustainable Development Goals (SDGs) using the case of agricultural workers in Brazil. It posits the overall relationships between climate change risks and working conditions, relevant international legal standards and norms on worker rights, and the features of worker conditions in Brazilian agriculture. It offers a compelling research agenda with five operational pillars: (1) research, (2) surveillance and monitoring, (3) risk assessment, (4) risk management, and (5) policies and regulations. The holistic framework it develops avoids monocausal explanations, incomplete solutions, fragmented interventions, and unintended consequences, which impact the livelihoods and health of Brazilian agricultural workers. The paper concludes by highlighting that through research using a human rights perspective, Brazil can protect workers' health in the face of climate change.

3. METHODOLOGY

Research Design

This study adopted an *Ex post Facto* research design. By *Ex post Facto* research design we mean it is a quasi-experimental study examining how an independent variable, present prior to the study, affects a dependent variable. *Ex post facto* research design, also known as causal-comparative research, is employed to investigate the impact of climate change on living standard in Nigeria by examining data collected from past events. This design is particularly useful when the researcher cannot manipulate variables directly and must rely on pre-existing data to explore relationships between independent and dependent variables.

Model Specification

Econometric models are mathematical frameworks that use statistical techniques to test hypotheses and forecast future trends in economic data. Model specification involves choosing the appropriate variables, functional forms, and assumptions for the model (Gourieroux & Monfort, 1995). The econometric specification takes the following form:

$$PCIt = \beta_O + \beta_1 MATt + \beta_2 MARHt + \mu t$$

Where;

PCI = Per Capita Income

MAT = Mean Annual Temperature

MARH = Mean Annual Relative Humidity

$\beta' s =$ The Parameters of the independent variables to be estimated.

μ = Stochastic Error Term

Unit Root Test

In order to avoid spurious regression estimates, a time series data should be examined for stationarity or order of integration. Time series data is accepted to be stationary if "it exhibits mean reversion in that it fluctuates around a constant long-run mean, has a finite variance that is time invariant and has a theoretical correlogram that diminishes as the lag length increases". There are many tests trying to find the order of integration of series and among them Dickey-Fuller, Augmented Dickey-Fuller and Phillips and Perron tests are the most widely used ones in testing the presence of unit roots. Dickey-Fuller (DF) test is based on the following model:

$$\Psi_t = \lambda \Psi_{t-1} + \varepsilon_t$$

The model can also be expressed as:

$$\Delta\psi_t = \varpi\psi_{t-1} + \varepsilon_t$$

Where; $\varpi = (\lambda - 1)$. This model is called pure random walk model. Null hypotheses are $H_0 : \lambda = 1$ for model (3.8) and $H_0 : \varpi = 0$ for model (3.9). The corresponding alternative hypotheses are $H_a : \lambda < 1$ and $H_a : \varpi < 1$ respectively. If DF test statistic (t-statistic of lagged dependent variable) is less than the critical value, we reject

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the null hypothesis and conclude that the series is stationary (there is no unit root). Model (3.9) can be extended by including a constant term and/or the trend.
The corresponding models are called random walk with drift and random walk with drift and time trend:

$$\Delta\psi_t = \alpha_0 + \Omega\psi_{t-1} + \varepsilon_t$$

$$\Delta\Psi_t = \alpha_0 + \beta_2 t + \Omega\Psi_{t-1} + \varepsilon_t$$

where: $\Omega = (\lambda - 1)$. The two models have same testing procedures with the random walk model. The following three models represent pure random walk, random walk with drift and random walk with drift and trend used in Augmented Dickey Fuller tests:

$$\Delta\psi_t = \Omega\psi_{t-1} + \sum_{i=1}^{p}\beta_i\Delta\psi_{t-1} + \varepsilon_t$$

$$\Delta\psi_t = \alpha_0 + \Omega\psi_{t-1} + \sum_{i=1}^{p}\beta_i\Delta\psi_{t-i} + \varepsilon_t$$

$$\Delta\psi_t = \alpha_0 + \Omega\Psi + \beta_2 t + \sum_{i=1}^{p}\beta_i\Delta\psi_{t-1} + \varepsilon_t$$

Co-integration Test

The co-integration technique allows for the estimation of a long-run equilibrium relationship. Simply put, one can argue that various non-stationarity time series are co-integrated when they are linear combination are stationary. One of the most popular tests for cointegration has been suggested by Engel and Granger (1987). The process is demonstrated thus; given a multiple regression: $y_t = \beta' x_t + \mu_t, t = 1,\ldots,T,$ where $x_t = (x_{1t}, x_{2t},\ldots, x_{kt})'$ is the k-dimensional I(1) regressors. For y_t and x_t to be cointegrated, μ_t must be I(0). Otherwise it is spurious. Thus, a basic idea is to test whether μ_t is I(0) or I(1).

Autocorrelation Test

In order to avoid some of the pitfalls of Durbin-Watson d test of autocorrelation, the Breusch-Godfrey Serial Correlation LM Test will be used to carry out the test of autocorrelation.

Heteroscedasticity Test

The primary essence of this test is to evaluate if the variance of the residuals are constant overtime. It is thus based on ascertaining if the series possess the Homoscedasticity property. The basis of judging the heteroscedastic status of the residuals is based on comparing the values between the Computed Chi-Square [X^2] and the tabulated version. If the computed X^2 exceeds the tabulated X^2, we conclude that there is the presence of heteroscedasticity in the residuals but if otherwise, we conclude there is the presence of homoscedasticty in the residual series.

Sources of Data

Data for the study will be sourced from the Central Bank of Nigeria Statistical Bulletin (CBN), Nigerian National Bureau of Statistics (NBS), and World Bank Climate Data.

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4. RESULTS AND DISCUSSION

Empirical Results

Time series data are often assumed to be non-stationary and thus, it is necessary to perform unit root test to ensure that the data are stationary. The test was employed to avoid the problem of spurious regression. Therefore, the Augmented Dickey-Fuller (ADF) unit root test was used to determine the stationarity of the data to complement each other. The decision rule based on the ADF test is that its statistic must be greater than Mackinnon Critical Value at 5% level of significance and in absolute term. The results of the unit-root test are reported in table 1 below.

Unit-Root Test Result

Table 1: *Unit Root Test Result*

VARIABLE	ADF STAT.	CRITICAL VAL.	ORDER
PCI	-6.214514	-3.580623	I(1)
MAT	-3.742041	-1.950117	I(1)
MARH	-6.120706	-1.950394	I(1)

Source: *Author's Computation Using E-views 10.*

Table 1 clearly shows that all the variables are stationary at first difference (I(1)). This means that the variables have unit-root until differenced in the first order.

Cointegration Analysis (Johansen Methodology)

Table 2: Cointegration Test Result

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.730726	84.95638	69.81889	0.0019
At most 1	0.332691	36.41144	47.85613	0.3759
At most 2	0.300437	21.44486	29.79707	0.3305
At most 3	0.197890	8.224774	15.49471	0.4417
At most 4	0.001781	0.065938	3.841466	0.7973

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: *Author's Computation Using E-views 10.*

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The Johansen method of cointegration was used for the study because all the variables are stationary at first difference. The Johansen result as displayed in table 2 clearly shows evidence of cointegration as trace statistics test indicates 1 cointegrating equations as the trace statistic value is greater than that of 5% critical value (84.95638 > 69.81889).

Regression Results (ECM Inclusive)

Table 3: ECM Result

Dependent Variable: D(PCI)
Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.396664	18.46299	0.400621	0.6914
D(MAT)	-0.211061	0.930543	-0.226815	0.8220
D(MARH)	-0.283296	0.997878	-0.283899	0.7783
ECM(-1)	-0.103685	0.104430	-0.992862	0.3282

R-squared	0.511527	Mean dependent var	37.73313
Adjusted R-squared	0.435204	S.D. dependent var	130.8872
S.E. of regression	98.36561	Akaike info criterion	12.15920
Sum squared resid	309625.4	Schwarz criterion	12.41777
Log likelihood	-225.0248	Hannan-Quinn criter.	12.25119
F-statistic	6.702067	Durbin-Watson stat	1.538525
Prob(F-statistic)	0.000225		

Source: *Author's Computation Using E-views 10.*

The regression analysis presented in Table 3 clearly reveals that the Mean Annual Temperature (MAT) has a negative numerical coefficient of -0.211061. This result indicates that climate change, as represented by changes in the mean annual temperature, has a detrimental effect on the standard of living, which is measured by per capita income (PCI) in Nigeria for the years under study. Specifically, the negative coefficient suggests that for every unit increase in mean annual temperature, there is a corresponding decrease in per capita income, implying that rising temperatures adversely affect the economic well-being of individuals in Nigeria. This negative relationship points to the broader implications of climate change, where higher temperatures may lead to reduced agricultural output, lower productivity, and a general decline in the quality of life for the population, thereby limiting economic growth and the standard of living.

The regression analysis presented in Table 3 also highlights the relationship between Mean Annual Relative Humidity (MARH) and the standard of living, measured by per capita income (PCI) in Nigeria. The numerical

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coefficient for MARH is -0.283296, which indicates a negative relationship between relative humidity and the standard of living. Specifically, the negative coefficient suggests that an increase in Mean Annual Relative Humidity is associated with a decrease in per capita income. This negative contribution may reflect how higher humidity levels could negatively impact agricultural productivity, labor efficiency, and overall economic conditions, which, in turn, lower the standard of living for individuals in Nigeria. As relative humidity rises, it could also exacerbate health challenges, contributing further to economic difficulties and a reduced quality of life. The F-statistics which is employed to test for the statistical significance of the entire regression plane yielded 6.702067 with a corresponding probability value of 0.000225 < 0.05. This entails that the test is statistically significant at the entire regression plane. The coefficient of determination (R^2) which measures the explanatory power of the independent variables yielded 0.511527. This implies that approximately 51% of the variations in agricultural output are explained by changes in climate change variables in this study. This is however relatively high and significant. The Durbin-Watson statistic of 1.538525 indicates a mild positive autocorrelation in the residuals of the regression model. While the value is below 2, suggesting some correlation between consecutive error terms, it does not severely affect the validity of the results. However, it signals that further diagnostic tests may be needed to assess the potential impact of autocorrelation on the model's accuracy.

Breusch-Godfrey Serial Correlation LM Test:

Table 4: Serial Correlation Test Result

F-statistic	1.403813	Prob. F(2,30)	0.2613
Obs*R-squared	3.251982	Prob. Chi-Square(2)	5.1967

Source: Researcher's Computation Using E-views

The Breusch-Godfrey Serial Correlation LM Test was used to carry out the test of autocorrelation. It is clearly seen that the Obs*R-squared which follows the computed Chi-Square distribution yielded 3.251982 and it is clearly less than the Chi-Square probability which yielded 5.1967. This compels us to accept the null hypothesis that there is no serial correlation of any order. Hence; there is no presence of autocorrelation problem in the model.

Discussion of Results

The study discovered that climate change has a negative impact on the standard of living of Nigeria between the period 1990-2024. The study's findings that climate change negatively impacts the standard of living in Nigeria carry significant implications for both the economy and the well-being of its population. As climate change leads to rising temperatures and fluctuating weather patterns, it disrupts key sectors of the economy, particularly agriculture, which is a major source of livelihood for many Nigerians. The negative effects on agricultural productivity, such as reduced crop yields and livestock productivity, directly affect food security, income levels, and overall economic stability, especially for rural populations dependent on farming.

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Additionally, the study suggests that the environmental challenges linked to climate change, such as increased temperatures and humidity, contribute to higher costs of living and reduced productivity in the workforce. These conditions can exacerbate health issues, increase the burden on healthcare systems, and reduce the effectiveness of workers, all of which further lower the standard of living. The negative economic impacts, in turn, could deepen poverty levels and widen income inequality, as the most vulnerable groups—those with limited resources and adaptive capacity—bear the brunt of these climate-induced changes.

Moreover, the negative impact on the standard of living means that Nigeria's development goals may be hindered, as efforts to reduce poverty, improve infrastructure, and promote economic growth become more challenging. The study underscores the urgent need for climate adaptation and mitigation strategies that not only address environmental concerns but also support economic resilience and equitable development for all segments of the population. Without proactive measures, climate change will continue to pose a significant threat to the nation's long-term prosperity and quality of life.

The findings of this study further agree with the findings of Tuy *et al.,* (2025) who carried out a study on the impact of climate change on the livelihoods of people in the Mekong Delta, Vietnam. Adopting a multiple regression analysis, the study discovered that Climate change is having severe impacts on the livelihoods of people in the Mekong Delta, Vietnam, and a key region for agriculture and aquaculture. In addition, it also aligns with findings of Lakshmi (2024) who carried out a study on enhancing human resilience against climate change through an assessment of hydroclimatic extremes and sea level rise impacts on the Eastern Shore of Virginia, United States. The researcher found out that findings a trend towards wetter conditions is found with an increase in the number of flood events and up to an 8.9 % rise in the severity of flood peaks compared to the 2003–2020 period. The findings of the study is also in tandem with the results obtained by Lechuga-Cardozo (2025) who conducted a study on the unmet basic needs in Venezuelan migrants’ receptor countries in times of climate change related to housing, economic dependence and services dimensions.

5. CONCLUSION AND RECOMMENDATIONS

The study on the impact of climate change on the standard of living in Nigeria revealed that climate change, measured through Mean Annual Temperature (MAT) and Mean Annual Relative Humidity (MARH), contributes negatively to the living standard of Nigerians. These climatic changes, such as rising temperatures and increased humidity, have adverse effects on key sectors like agriculture, health, and overall economic productivity, which are critical to the well-being of the population. As agricultural output decreases and economic challenges rise, particularly for vulnerable communities, the overall quality of life in the country diminishes. In conclusion, the study emphasizes the urgent need for targeted climate adaptation and mitigation strategies to address the detrimental effects of climate change on Nigeria’s standard of living. Policymakers must prioritize sustainable practices, improve resilience in vulnerable sectors, and invest in infrastructure and public health to mitigate these impacts. If unaddressed, the continued negative effects of climate change may exacerbate poverty, increase inequalities, and hinder national development, ultimately diminishing the standard of living for many Nigerians.

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Recommendations

i. To address the negative impact of rising temperatures, Nigeria should invest in climate-resilient agriculture, such as drought-resistant crops and efficient irrigation systems. Additionally, promoting renewable energy and reducing carbon emissions can help mitigate temperature increases.

ii. Nigeria should strengthen healthcare systems to manage climate-related health risks and improve public education on these issues. Promoting climate-adapted housing and urban planning can also help reduce the negative effects of increased humidity.

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